

CLAIMS

I claim:

1 1. A bearing insert and service tools therefor providing
2 for the removable installation of the insert within a
3 cooperatively threaded bearing housing, the insert and tools
4 comprising in combination:

5 a cylindrical bearing insert sleeve having a first end, a
6 second end opposite said first end, an inner diameter
7 dimensioned for the press fit of at least one bearing therein,
8 and an outer diameter;

9 an externally threaded portion disposed about at least the
10 first end of said sleeve, the externally threaded portion having
11 a threaded diameter greater than the outer diameter of said
12 sleeve;

13 a plurality of tool engagement slots disposed peripherally
14 about the first end of said sleeve;

15 a bearing insert installation and removal tool having a
16 first end, a second end opposite the first end, an inner
17 diameter substantially equal to the inner diameter of said
bearing insert, and an outer diameter substantially equal to the
18 threaded diameter of said bearing insert;

20 a plurality of bearing insert engagement fingers extending
21 peripherally and axially from the first end of said bearing
22 insert installation and removal tool, the fingers being
23 dimensioned for fitting closely within the slots of said sleeve;

24 a bearing press plate formed of a thick, rigid sheet of
25 material having a first side, a second side opposite the first
26 side, and a threaded, generally concentric bearing insert
27 passage therethrough;

28 the bearing insert passage of said bearing press plate
29 having a diameter and thread configuration for the threaded and
30 removable installation of the externally threaded portion of
31 said bearing insert therein; and

32 a plurality of support legs extending from at least one of
33 the sides of said bearing press plate, substantially normal
34 thereto.

1 2. The bearing insert and service tools combination
2 according to claim 1, wherein said bearing insert sleeve
3 comprises a thin walled cylinder formed of hard steel material.

1 3. The bearing insert and service tools combination
2 according to claim 1, wherein said first end of said bearing
3 insert sleeve further includes a snap ring groove formed
4 internally therein.

1 4. The bearing insert and service tools combination
2 according to claim 1, further including a tool fitting extending
3 concentrically from said second end of said bearing insert
4 installation and removal tool.

1 5. The bearing insert and service tools combination
2 according to claim 4, wherein said tool fitting comprises a
3 hexagonal extension configured for fitting a conventional
4 hexagonal wrench.

1 6. The bearing insert and service tools combination
2 according to claim 1, wherein said plurality of legs of said
3 bearing press plate further comprises a first plurality of legs
4 extending from said first side of said plate and a second
5 plurality of legs extending from said second side of said plate.

1 7. A threaded bearing insert and bearing insert housing,
2 comprising in combination:

3 a cylindrical bearing insert sleeve having a first end, a
4 second end opposite the first end, an inner diameter dimensioned
5 for the press fit of at least one bearing therein, and an outer
6 diameter;

7 an externally threaded portion disposed about at least the
8 first end of said sleeve, the externally threaded portion having
9 a threaded diameter greater than the outer diameter of said
10 sleeve; and

11 a bearing housing structure having a bearing insert passage
12 formed therein, the bearing insert passage of said bearing
13 housing structure having an internal diameter closely fitting
14 the outer diameter of said bearing insert sleeve and an outer
15 end threaded compatibly for removably receiving the externally
16 threaded portion of said bearing insert sleeve therein.

1 8. The threaded bearing insert and bearing insert housing
2 combination according to claim 7, further including a plurality
3 of tool engagement slots disposed peripherally about said first
4 end of said bearing insert sleeve.

1 8. The threaded bearing insert and bearing insert housing
2 combination according to claim 7, further including a plurality
3 of tool engagement slots disposed peripherally about said first
4 end of said bearing insert sleeve.

1 9. The bearing insert and bearing insert housing
2 combination according to claim 7, wherein said bearing insert
3 sleeve comprises a thin walled cylinder formed of hard steel
4 material.

1 10. The bearing insert and bearing insert housing
2 combination according to claim 7, wherein said first end of said
3 bearing insert sleeve further includes a snap ring groove formed
4 internally therein.

1 11. The bearing insert and bearing insert housing
2 combination according to claim 7, wherein said bearing housing
3 structure comprises a suspension knuckle component for a front
4 wheel drive automobile.

1 12. A tool assembly for removing bearings from and
2 installing bearings into a threaded bearing insert having an
3 inner diameter and an outer diameter having an externally
4 threaded portion thereon, the tool assembly comprising:
5 a bearing insert installation and removal tool having a
6 first end, a second end opposite the first end, an inner
7 diameter substantially equal to the inner diameter of the
8 bearing insert, and an outer diameter substantially equal to the
9 outer diameter of the bearing insert;
10 a plurality of bearing insert engagement fingers extending
11 peripherally and axially from the first end of said bearing
12 insert installation and removal tool;
13 a bearing press plate formed of a thick, rigid sheet of
14 material having a first side, a second side opposite the first
15 side, and a threaded, generally concentric bearing insert
16 passage therethrough, the bearing insert passage having a
17 diameter and thread configuration for the threaded and removable
18 installation of the externally threaded portion of the bearing
19 insert therein; and
20 a plurality of support legs extending from at least one the
21 sides of said bearing press plate, substantially normal thereto.

1 13. The tool assembly according to claim 12, further
2 including a tool fitting extending concentrically from the
3 second end of said bearing insert installation and removal tool.

1 14. The tool assembly according to claim 14, wherein said
2 tool fitting comprises a hexagonal extension configured for
3 fitting a conventional hexagonal wrench.

1 15. The tool assembly according to claim 14, wherein the
2 plurality of legs of said bearing press plate further comprises
3 a first plurality of legs extending from the first side of said
4 plate and a second plurality of legs extending from the second
5 side of said plate.